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- ART. V. — 1. *An Elementary Treatise on American Grape Culture and Wine-making.* By PETER B. MEAD. New York: Harper and Brothers. 1867. pp. iv., 483.
2. *Vineyard Culture Improved and Cheapened.* By A. DU BREUIL. Translated by E. and C. PARKER. With Notes and Adaptations to American Culture, by JOHN A. WARDER. Cincinnati, Ohio: Robert Clarke & Co. 1867. pp. x., 337.
3. *The Grape-Vine.* By FREDERICK MOHR. Translated by CHARLES SIEDHOF. New York: Orange Judd & Co. 1867. pp. vii., 129.
4. *The Wine-maker's Manual.* By CHARLES REEMELIN. Cincinnati, Ohio: Robert Clarke & Co. 1868. pp. viii., 123.
5. *Address of DR. C. W. GRANT, delivered before the Grape-Growers' Convention at Canandaigua, N. Y., October 20, 1868.* [Proof-sheets.]
6. *The Cultivation of the Native Grape and the Manufacture of American Wine.* By GEORGE HUSMANN, of Herman, Missouri. New York: Woodward & Co. 1868. pp. xi., 192.
7. *The Culture of the Grape.* By W. C. STRONG. Boston: J. E. Tilton & Co. 1867. pp. xvi., 355.

IN April, 1865, we gave in this Review a brief sketch of the rise, progress, and condition of open-air grape culture in the United States, and added thereto some safe prophecies of its probable future, and some hints upon the management of the vine, derived in large measure from our own experience.

Since that time grape culture has made great progress in almost every State in the Union; new varieties have been introduced and tested; new wines have been brought into notice; and, in short, so marked an advance has been made in every department of viticulture as to justify us in again calling the attention of our readers to this important subject. So important and complex a subject is it, that we cannot treat it exhaustively within the limits of an article, but must be general in our statements, referring our readers for statistics to government and State reports, and for details and practical methods to the able manuals named above.

At the risk of a little repetition, we propose now to say a few

words in regard to the past history of grape culture in this country, and then to speak of its present condition, with particular reference to the newer varieties of grapes and the brilliant prospect now opened in wine-making in the United States. Wine was made from native grapes by the early settlers of Florida in 1564. The London Company in Virginia, excited doubtless by the abundance and vigor of the indigenous vines, attempted to establish a vineyard in 1620, imported French *vignerons* in 1630, had certainly succeeded in making wine in 1647, and offered premiums for its manufacture in 1651. William Penn in 1683, Andrew Doré in 1685, and Peter Legaux in 1793 made unsuccessful attempts to establish vineyards. In 1722, Virginia had vineyards that gave abundant returns with little care, but for many years no grape appeared good enough in all respects to put grape culture and wine-making on a firm basis. The Catawba grape, discovered in 1801, brought to public notice in 1816, and introduced at the West with so much success, is the variety whose appearance at a critical time entirely changed the aspect of grape culture in this country. To this variety and to the Isabella, although their day of triumph is now past and gone, we owe a debt of gratitude that should not be forgotten. As a market grape, and as a grape for wine, the Catawba for many years had no rival. Now it succeeds only in favored spots, and is too subject to the attacks of disease to be trusted as in former days. The Isabella, though widely cultivated, was never a rival of the Catawba, and has always been considered inferior to it.

We may remark here, in passing, that all the persistent and expensive attempts that have been made to cultivate the European grape, the *vitis vinifera*, in the open air, have proved failures in the Northern and Middle States. The season here is long enough to ripen many foreign kinds, but the violent atmospheric changes and sudden variations of temperature to which we are subject are very unfavorable to the growth of vines whose leaves are naturally susceptible to the attacks of mildew. Now and then in a city a foreign vine, trained against a brick wall, may be made to ripen its fruit, but the exceptions to the general rule are few.

Local varieties arose and fell, but up to a comparatively

recent date the Delaware and Diana grapes, with perhaps the Concord, were the only kinds that bade fair to supplant the two well-established kinds for cultivation on a large scale.

The Delaware grape, which we described three years ago as then *facile princeps* among American varieties, and of whose native origin there can be no doubt, has been planted largely of late, and the extraordinary merits of its fruit, both for table use and for still and sparkling wine, have been fully admitted. Yet the tendency of the Delaware to mildew in some localities, and its habit of dropping its leaves early in the season, together with its slow growth, prevent many *vignerons* from setting out so many vines of this variety as they would plant if they could trust it more implicitly.

The Diana is a seedling from the Catawba, and possesses shining merits of its own, with some radical defects, transmitted from its parent. It is better than the Catawba; its clusters are noted for keeping well in the winter, and their juice mingled with that of the Delaware makes a superb wine; but the vine itself is somewhat tender, and requires a peculiar soil and treatment. Still, in spite of its inherent faults, more and more vines of the Diana are planted every year.

From Maine to Florida, and from the Connecticut Valley to the banks of the Mississippi, the Concord grape flourishes and bears fruit. Judged by a standard at all critical, its fruit, and its wine particularly, are of the second or third class; but its hardiness, its immense productiveness, and the certainty with which it ripens its crops in ordinary seasons, added to its wonderful freedom from disease, have given it a hold on public confidence which cannot easily be shaken. To an uncritical taste its faults are of no moment compared with its excellences, but tried by a severe standard it can never hold a very high rank.

The number of new grapes introduced during the past ten years is enormous. The facility with which new varieties may be called into being, the fascination attending the production of new kinds, and the certainty of profit if a kind be obtained better than any before known, all conspire to give the grape-growing public a flood of new grapes, nine tenths of which are forgotten as soon as they are named. One in a thousand, per-

haps, has qualities which put it by right in the front rank, and give it a place among established kinds.

Of the newer grapes that have been pretty well treated, the Adirondack, Israella, and Iona are among the foremost, although of very unequal merit.

The Adirondack is supposed to be a seedling from the Isabella, and was found growing wild in Northern New York. It is a sweet, tender, pleasant grape, valuable rather for its earliness and absence of defects than for any positive merits. The vine is a moderate grower, and unfortunately is a little tender. We do not believe it will ever be widely planted.

The Israella, which originated with Dr. C. W. Grant, is also a seedling from the Isabella, but of more decided merit than the Adirondack. The vine is vigorous, productive, and generally healthy, although subject to mildew in some places. The clusters are large, compact, and ripen early. The berries are purple, sweet, of excellent flavor, and cling well to the stems. In fact they are sometimes so closely set as to make the cluster almost solid. It is without question the best grape of the Isabella family yet produced in this country.

When the Delaware had been pretty widely disseminated, and its merits had become known, it was found so superior to existing kinds as to make cultivators confident that it would be a long time before a variety of equal rank would be obtained. No one expected that we were soon to see a grape at once larger and better than the Delaware. But about the year 1867 the patient waiting and well-directed experiments of Dr. Grant, of Iona Island, were rewarded by the appearance of the Iona, the crowning glory of viticulture in this country, and a grape destined not only to give us more correct notions of excellence in grapes, but to compel the respect and admiration of foreign wine-makers. For beauty, delicacy, richness of flavor, freedom from the tough pulp that surrounds the seeds of almost all American grapes, and for the qualities that constitute a true wine grape, the Iona, in our opinion, stands without a rival. Its adaptability to various soils and conditions of growth needs more thorough testing, but our experience with it during the last, most trying season leads us to hope that it may ripen with tolerable certainty even in Massachusetts.

We turn aside for a moment to remark that this country owes more to the originator of the Iona than it can ever repay. By precept and example Dr. Grant awakened the public mind to the importance of grape culture and the necessity of having better grapes than those formerly set up as standards. He proved that it is almost as easy to raise the best grapes as the poorest, and, by producing new and better kinds, he put the means of improvement within the reach of all. His labors have wrought a silent but prodigious revolution in grape culture in the United States.

Mr. E. W. Bull of Concord, Massachusetts, did not rest upon his laurels when he had produced and sent forth the Concord grape, but by patient experiments, conducted year after year with unwearied enthusiasm, he has created several new varieties, seedlings from the Concord, that cannot fail to make their mark. From the tough, inedible native Mr. Bull has produced grapes of great delicacy and refinement, free from fibrous pulp, exceedingly hardy and vigorous, and one of them at least possessing very remarkable properties for wine-making. Two of these, the Cottage and the Una, a purple and an amber-colored grape, have been made public property, and have no doubt a most useful future before them. The Martha, a grape of much promise, is also a seedling from the Concord.

We have left ourselves but little space to speak of other varieties. For sheltered locations and warm, rich soils, the Allen's Hybrid and the Rebecca still hold a high rank among light-colored grapes.

The Clinton, a small purple grape, is sometimes raised for wine, but has no merits as a table fruit. The vine is an enormous grower and bearer, and is very hardy.

The Hartford Prolific is still raised on account of its earliness. It has no other merits, and its defects are glaring. There will be no excuse for cultivating a vine like this, removed but one step from the native, when the Israella and Mr. Bull's seedlings become better known.

Four years ago, in this Review and elsewhere, we earnestly maintained that the numerous varieties raised and introduced by Mr. E. S. Rogers of Salem were genuine hybrids, and that their hybridism was established by facts and reasoning that

could not be refuted. This doctrine was very unpopular with many growers at that time, but we have seen them since come over to our side one by one, until we think that very few doubt that Mr. Rogers has produced grapes which are the result of crossing our native varieties with the *vitis vinifera* of Europe. Within a few years the so-called Rogers hybrids have been spread through the country, and some of them have acquired an enviable reputation. Probably the final verdict will be that the three or four best kinds should be preserved and cultivated, and that the less valuable numbers should be thrown aside. The best, and one already planted largely for wine, is the Salem, a noble grape, showing evident marks of both its foreign and native parentage, and with us this last year enduring the unfavorable changes of weather as well as any other out-door vine. Messrs. Underhill of Croton Point, and Moore of Rochester, N. Y., have each produced hybrid grapes, of which we are compelled to say that they seem almost too good. We mean by this that we fear they contain so large an amount of the foreign element in their composition as to make their success in our climate a matter of doubt. One of them at least, the Diana-Hamburg, a magnificent grape *per se*, is wholly unfit for this part of the country, losing in our garden every leaf by mildew before midsummer.

We used to think that the path to sure and immediate success in the production of new varieties of permanent value lay through hybridizing the native and the foreign grape; but theoretical objections, as well as the great triumphs of experimenters like Mr. Bull and Dr. Grant, who have worked in a wholly different way, have led us to doubt the soundness of our former belief. The objection *a priori* to hybridizing is the strong probability that the hybrids produced will not only derive from their foreign parents those properties of flavor, richness, and size which make the fruit of the *vitis vinifera* so attractive, but also inherit a constitution which can never resist mildew and rot, and make headway against the sudden and violent atmospheric changes to which our climate is subject. The better the hybrid is, — that is, the more nearly it resembles its foreign parent, — the more likely is it to have a tender constitution, unfitting it for our vineyards.

On the other hand, by direct breeding, or, in other words, by planting a vast number of seeds of some good grape, allowing the resulting seedlings to bear fruit, selecting the one in a thousand that gives signs of superior quality and shows no loss of vigor, planting its seeds, and so continuing, grapes have been obtained of the highest rank, and yet as hardy as their parents. The Concord, and, better still, the seedlings from it, are instructive instances of brilliant results obtained by direct breeding.

No one should infer from the praise we bestow upon certain excellent grapes that the end has been reached. We have not yet a perfect grape. No variety has been produced which has in the requisite degree the three prime qualities of hardiness, early ripening, and fruit of high character. We have many hardy grapes that are of poor quality, many excellent grapes that are tender, and many of the highest class that are both tender and tardy in ripening.

The production of new varieties of any fruit opens a tempting field for experiment, and the rarity of high success makes the prizes drawn all the more valuable. Whoever works by hybridizing, or by direct planting, procures for himself a fund of the purest enjoyment, and in some exceptional cases gains a large pecuniary reward. The man who shall create a grape as hardy as the Concord, ripening in Massachusetts without fail before the 10th of September, and at the same time of the best quality when tried by the highest standard, will have added to the absolute wealth of the country an amount incalculable. Major Adlum, who introduced the Catawba grape, was fond of saying that he had done his country better service than if he had paid off the national debt, — no idle boast, if we consider what the Catawba grape has done directly, and to what indirect results it has led.

To sum up, then, all the varieties of grapes we can recommend for out-door cultivation in this region may be counted on the fingers. The Concord and one or two of its seedlings, the Israella, Diana, and Delaware in very many localities, possibly the Adirondack, the Iona wherever it can be made to ripen, and

two or three of the most thoroughly proved Rogers hybrids, comprise all we can advise a beginner to try.

The Rebecca and Allen's Hybrid among light-colored grapes, and the Creveling and Union Village among purple kinds, will succeed in favored places ; but some of them are tender, and all are more or less subject to disease. The Isabella is almost discarded in New England. The Hartford Prolific, Clinton, and a number of all kinds hardly removed from the native grape, are not worth cultivating. Some will dissent from this opinion so far as it condemns the Hartford, but we feel sure that this kind must soon give way to varieties which are equally early and of greatly superior quality. The Dana and Nonantum grapes are two recent acquisitions of Massachusetts origin, but as yet are not well known. They give signs of being valuable kinds, and no pomologist has had greater success in producing new fruits than their originator, Mr. Francis Dana.

We do not know that any radical change of opinion in regard to soil and cultivation has taken place since we last discussed these subjects in this Review.

Success by a peculiar method or in a peculiar location too often blinds a vine-grower to the merits of a different system or a better soil. Hence there are almost as many methods and theories as there are *vignerons*. If any change has been wrought in grape-growing, we think it is in the matter of deep planting and high manuring. The school that taught us to trench the ground deep and stimulate the growth of the vine with strong manures has had its day, and more rational counsels prevail. The results of deep trenching and high manuring are so immediate and striking, that the beginner is often led astray, and repents when too late. Whoever plants a vineyard should remember that present success may be bought by failure at no distant day, and should consider too that in planting a vine he is working, not for a year or for ten years, but for centuries. More vines have been ruined, we believe, in this cold climate of ours by being planted too deep and by subsequent over-stimulation than by all other causes combined. Vines should not be planted deep, because the soil in our short summer rarely gets warmed more than a foot below

the surface ; and they should not be overfed, because high manuring causes a rank growth of wood that ripens imperfectly and is as often winter-killed when protected in winter as when exposed.

Any moderately good soil, dry and not too rich, will give good crops of grapes, provided the location and aspect are favorable. The Delaware is perhaps the only variety that demands a deep, rich soil. In poor land it not only fails, but it can hardly be kept alive. On the other hand, we have Concord vines growing moderately well in the gravel of a dry side hill, where the white bean, the very pariah of vegetables, refuses to grow at all. The Rebecca does best in a clay soil of moderate richness ; while the Diana needs a poor soil to check its rampant growth and enable it to ripen its wood. Enriching the soil will increase the size of the Concord grape, but at the same time the quality of the fruit will be impaired.

We have in mind as we write a vineyard of choice varieties, the owner of which made preparations for planting by trenching to the depth of two and a half feet, and enriching the soil with every conceivable fertilizer he could obtain. The result was immense growth of vine and enormous showy clusters for a few years, and then disease leading to a gradual failure both of vines and fruit.

It cannot be repeated too often, that the main object of the *vigneron* in our cold climate should be to get well-ripened, healthy wood that will stand the winter unprotected. No vine that is forced or over-stimulated can produce such wood, and this is why caution in the use of manures is necessary.

For established vines, the Delaware alone excepted, wood ashes and bonedust in moderate quantities are the strongest fertilizers we are disposed to employ. These contain all the inorganic food necessary for the growth of the grape, and do not stimulate the vine to excess. The insane policy of cutting off the upper tier of vine-roots, laid down in some foreign manuals as essential to success, has never been adopted here, and never will be. Any procedure that tempts the roots to go more than a foot below the surface is ill advised. The number of vines that should be grown upon an acre, and consequently the space that each vine shall cover, are still disputed points,

and the consideration of these leads directly to the questions of training and pruning.

After reading almost everything that has been published of late years on these topics, and after testing carefully numerous methods of training with a great many varieties, we have come to have certain fixed ideas with regard to the proper distance between vines and the closeness with which they should be pruned. We believe that great mistakes are made in crowding too many vines into a given space, in cramping the growth of each individual vine, and in pruning too close. We do not belong to what may be called in a double sense the natural school of *vignerons*, who advocate allowing grape-vines to straggle at will over the tops of trees; but at the same time we do not think that the extremely close, systematic pruning laid down in many manuals will ever answer for most of our vigorous native kinds.

The number of vines planted on an acre in France varies from one thousand to more than thirty thousand. Here, the testimony of the most experienced growers assures us that the smaller of these numbers is too large. The growth of some of our vines strikes a foreigner with amazement, annual shoots sixteen feet long not being uncommon. This strong growth makes it necessary to give our vigorous vines room enough to spread. If the rows are six feet apart, the distance between the vines should not be less than twelve feet for the Concord, nor less than sixteen for vines so rampant as the Rogers No. 15.

Many cases are on record where every other vine in a vineyard has been removed, and a year or two later half the remaining vines taken away, with good effect. We have no space to discuss the various methods of training and pruning now in vogue. The simplest is generally the best, and the simplest and easiest is that of a horizontal arm near the ground, with upright canes, which are cut back to three or four buds every year after fruiting. We say three or four buds, not two, as most of the text-books teach; for it is beginning to be known that in many vines the best clusters are produced from the third or fourth eye above the old wood. We believe this is especially true of the Diana and the Concord, and in pruning vines of these varieties we are careful to leave bearing wood enough.

Some men of experience, Mr. George Husmann in particular, are strenuous advocates of summer pruning, or pinching the ends of the young shoots during the summer, and they even advise beginning as soon as four or five leaves have appeared ; but this practice is more talked about here than followed. Without waiting for the results of experiments which we have begun, we have great confidence in what is known as the strict Guyot system. This consists in renewing the horizontal arm annually, by cutting away the old arm at the end of the season and bending down into its place a new cane that has been allowed to grow for this purpose from near the base of the vine. The next year's fruit is raised from the fresh, vigorous buds of this new arm, and at the same time a new strong shoot is growing to take the place of the bearing cane the following season. This method has advantages apparent at a glance to the experienced cultivator.

Any system of pruning is better than none. It takes but a year or two for a neglected vine to get beyond the reach of the shears, and to become a tangled mass of half-ripened wood and useless shoots. In this case it is often simpler to cut the vine down and start afresh than to try to bring it into shape by trimming.

Grafting the vine is a matter which still tries the skill and patience of cultivators. Some recommend the spring as the proper time for grafting, and others the month of November. Grafting below the soil is preferred by some, and others succeed best six feet above the surface, but we must say that in both methods failure is the rule. We regret this, for any approach to certainty in this process would be of immense value. In proof we may mention that we knew a small two-bud cutting to be grafted on a vigorous stock in June, and to make from each bud a strong cane ten or twelve feet long the same season. In the case to which we refer the canes were layered the next spring, and the result was that in fifteen months from the time the tiny scion was inserted the experimenter had forty strong, well-rooted layers, worth, as it happened, a dollar apiece. If he had propagated his two buds in the usual way, by heat, he would have had two small vines instead of forty large ones. We cannot help thinking that at some time the

problem of grafting will be solved; and, if it should be, then nurserymen will find it profitable to raise seedling stocks from native seed for delicate growers like the Delaware and Rebecca.

The chief diseases of the vine are mildew and rot, the former, speaking generally, affecting the leaves, and the latter the fruit. With us, cold nights in July and August, after hot, damp weather, are almost sure to bring on mildew. The only varieties in our collection absolutely unaffected by mildew last year were the Salem, Concord, Una, Cottage, and Hartford Prolific. Some varieties suffered badly, losing all their leaves long before frost came. The mildewing of a few leaves on strong vines need cause no anxiety, for its ill effects will be wholly inappreciable. Sulphur has been looked upon as a specific against mildew, and even as a preventive of its attacks. We have tried it for three years, but cannot see that it checks the spread of mildew much, unless very thoroughly applied to the under side of the leaves as soon as the spots appear. A sulphide of potassium is said to be more efficacious than dry sulphur, and may be applied in solution by means of a syringe.

Rot is a more serious matter than mildew. It has ruined the usefulness of the Catawba, and makes certain other grapes an uncertain crop. It affected in Massachusetts last year, though very slightly so far as we observed, the Rogers Nos. 15 and 19, the Concord, and possibly one or two other kinds. It presents itself under various aspects; but, in whatever shape it comes, little is known of its cause, and no means of guarding against it has yet been devised. All that can be recommended is to select varieties for planting of perfect hardiness and vigor, and to discard all others.

Among insects, rose-bugs are sometimes a serious pest. They eat the vine blossoms with the utmost greediness. One *vigneron* in this State destroyed last year a peck, by measure, of these bugs by hand-picking and burning, no other means of getting rid of them being at all practicable. They exhibit a decided preference for the foliage of the Clinton grape, and will actually forsake all other vines in a large collection for the sake of feeding on the leaves of this variety. No other insects have become troublesome in this part of the country.

It is not many years since a few pounds of poor grapes

abundantly supplied the markets of our great cities, that now consume hundreds of tons of choice varieties every season. It would be tedious to give here a list of the prices for which grapes for table use have been sold in our markets, but we may say that we have never yet seen good grapes sold at a price which did not well repay the grower.

Discredit has been brought upon grape culture of late by exaggerated statements of the profits it affords. Exceptional returns in favorable years have been cited as an average, while short crops and failures have been kept out of sight. We have seen vineyards in this State that have borne crops of seven tons to the acre, but it would be unfair to reckon the profit of any vineyard on a basis of more than three and a half tons to the acre.

Grape culture will not suffer when its profits are fairly compared with those of any ordinary farm crops; and such a comparison is, it seems to us, the only way of getting a correct estimate. We can safely reckon that seven hundred Concord vines will produce, on an acre of ground, thirty-five hundred pounds each year. These, if sold for five cents per pound, will give a better return than any field of corn, with less than half the annual outlay for labor and manure than the corn would require. We may add that, while twice five pounds to a well-established vine is only a fair crop, five cents per pound is an extremely low price for grapes offered for sale in decent condition. The lowest wholesale price of Concord grapes in the Boston market last year was twelve cents per pound.

There is a steadily increasing demand for good fruit, and we may even say for fruit of every kind. As the supply increases, the price rises, showing that the supply provokes the demand. The price of strawberries, for example, — of which one Boston firm sold twelve thousand boxes in one day last year, — is three or four times as great as it was when only a third or a quarter as many strawberries were raised as now. Poor fruit, hastily gathered and carelessly packed, is always abundant and cheap, but it remains to be proved that the public will not prefer to pay the very highest price for the best article.

The literature of grape culture in this country is already respectable, and is annually increasing.

Of the books we have named above, Mead's Manual is the most pretentious, and Husmann's is the most useful. Du Breuil's treatise contains precepts and directions wholly unsuited to our vines and climate, and the text and notes of the American edition make together a curious mosaic of contradictory advice. The monthly horticultural journals afford the best index of the interest felt in grape-growing in this country; and it often happens that half their reading matter, and a very large proportion of their advertisements, relate to grapes and wine. Nurserymen are not rare who advertise vines by the half-million; and perhaps no better way can be found to get a comprehensive idea of the extent to which grape-growing is carried, and indirectly a notion of the size of the vine-growing area, than to study the advertising columns of the journals devoted to horticulture.

Dr. Grant's address at Canandaigua is a very able and instructive paper, and will well repay a careful study. No man in this country has a clearer conception than the author of this address of the comparative value of different grapes, or of the merits of the wines they produce. The first number of a Western monthly journal, devoted wholly to grapes and wine, has already appeared, and the magazine bids fair to be successful. It is edited by Mr. George Husmann, a man of great enterprise and wide experience, and we welcome its appearance as a pleasant sign of the increasing importance of the grape-growing interest in this country.

Important as is the growing of grapes for use as food, and profitable as it can be shown to be, the cultivation of grapes for wine will always take precedence of it. Little by little, from feeble and uncertain beginnings, wine-making in this country has risen to be a very important element of the national prosperity. It promises to take rank by the side of wool-growing, cotton-raising, and the production of breadstuffs.

It used to be the fashion, and may be customary even now among those who can indulge themselves in the choicest products of European vineyards, to sneer at wines of domestic growth; but as the question, "Who reads an American book?" is no longer asked in derision, so the query, "Who drinks American wines?" is becoming a thing of the past. To say nothing

of the Californian vineyards, in which mainly vines of European origin are grown, we can reckon at once at least fifteen kinds of grapes, wines made from which, and presumably pure, are now offered for sale in quantity. Other varieties, such as the Iona and some seedlings not yet disseminated, have produced wine of the highest quality, but not yet in quantity sufficient to become an article of trade.

There is of course much difference of opinion as to the comparative value of the various wines produced east of the Rocky Mountains, and we are perhaps justified in noticing some of these varieties in detail.

Although compelled at once to struggle against the attacks of disease and to compete with newer varieties, the Catawba grape still furnishes a very considerable proportion of our native wine. It is unfair to speak ill of the bridge that has carried us safely over from the days of ignorance in wine-making to the present enlightened period, but we must say that the Catawba grape has seen its best days. We should be of the same opinion even if it were not affected by disease, for newer and better kinds stand ready to take its place. Connoisseurs tell us that the wine of the Catawba is neither full nor rich enough, and that it is apt to be too sour. It can never give us what we need so much, a delicate hock wine. We have tasted many samples of Concord wine. Some were of incredible nastiness, while others, made from perfectly ripe grapes with the addition of sugar, were comparatively palatable, although by no means of great merit. The pure juice gives a claret; the sugared, as we have tasted it, a kind of nondescript, possibly to be classed as a sherry. The peculiar aroma or flavor of the wild grape—called, for want of a more descriptive term, “foxiness”—has been inherited in a modified degree by its descendants, and is unpleasantly perceptible in the Concord wine. We know, however, that in Florida and Missouri the Concord grape attains a degree of excellence it never reaches here, and that its wine is improved in a corresponding degree. The Clinton grape, the juice of which contains a good percentage of sugar, produces a strong, full, red wine, of considerable body but harsh and unpleasant. We may call such samples as we have tasted a rough claret, and we hardly think that this

wine will be popular. We imagine that the quantity of wine made at present from the Isabella grape is very small. We tasted recently sparkling Isabella wine ten years old, but it could hardly be called second-rate.

The Ives Seedling is not a new grape, but it has of late years been brought prominently before the public, and has received the prize offered by the Longworth Wine Company for the best wine grape for the whole country. We do not attach much importance to this award, for it is obviously absurd to select any one variety as *the* grape for general cultivation in a country of such wide extent as ours, and which comprises regions so different in climate and soil as are Maine and Florida. The grape itself is hardy, healthy, and productive. Its juice is of a remarkably dark color, and produces wine of great body and fulness. The sparkling Ives Champagne, so called, is very peculiar by reason of its color, and, though much praised, is in our opinion a very inferior wine, being either artificially sweetened, or else not sufficiently fermented. Wine from the Ives grape has a very marked aroma, agreeable to many, but not relished by critical judges.

We rank the Norton's Virginia grape much higher than the Ives. It gives a red wine of very high character, harsh at first, but which improves with age and gradually attains a good degree of refinement. In its peculiar class it is surpassed, in our judgment, by only one wine, and that made from a grape as yet little known. This variety, the Cynthiana, originated, we are assured, in the far West, and has been successfully cultivated in Missouri. It produces a red wine, less harsh and more refined than the Norton's Virginia, less cloying than the Ives, and possessing a delicate bouquet entirely its own. We had the good fortune to taste some of the earliest samples made by Mr. George Husmann, and we believe that the popularity of the Cynthiana will increase as fast as the wine becomes known. We have the vine under trial, but learn that its grape is, unfortunately, unsuited to our season and climate.

The Diana, when well ripened, produces a wine resembling the best German hocks, but richer and less acid. It is far superior to the Catawba wine, but its bouquet is so peculiar as to be offensive to some good judges.

The juice of the Diana mixed with that of the Delaware gives a sparkling wine of very great richness and excellence, but hardly dry enough to be called a Champagne of the first rank. The unmixed juice of the Delaware gives a wine of which any *vigneron* or any country may well be proud. A page of description would hardly suffice to set forth its merits, and even then we should not give a clear idea of its value to any one who had not tested it. It must suffice then, to say that the wine is rich, pure, and delicate, and that it possesses in an eminent degree all the qualities of a fine sherry, with an aroma and bouquet of its own. It needs several years' ripening to bring it to perfection. Sparkling Delaware is a choice and delicious wine.

As yet but very little wine has been made from the Iona. The grapes have been too scarce, and too highly prized for the table, to admit of their being set aside and saved for wine. The little which has been made has shown such surprising excellence, and such an assemblage of high qualities, as to astonish even those who were familiar with the grape, and who had consequently hoped that it would be as good for wine as for immediate use. We do not propose to give an extended analysis of its merits, but may simply say that the samples we have tasted surpass all Delaware wine, and justify us in believing that we have at last found a grape which will enable us to rival in this country the very choicest and most famous products of the vineyards of the Rhine. Better judges than ourselves do not think this belief extravagant or visionary.

One of Mr. Bull's seedlings, not yet made public, produces a very fine port wine, and among the others are some entirely devoid of pulp and giving great promise as wine grapes. The Rogers Hybrid No. 1 is said to make a fine sparkling wine, and we have received from Missouri a new seedling grape, called the Hermon, from the place of its origin, that gives, it is said, a genuine Madeira wine. If this is true, there is hardly a European wine of any rank that has not its counterpart in this country, and very few that have not their equals. Champagne, sherry, hock, port, Burgundy, and, we are told, Madeira wines, all have their representatives here; and when we reflect that until within a very few years the Catawba and Isa-

bella grapes were the chief sources of our wine, we may well stand amazed at the rapid and steady progress that has been made. Inalienable associations will always cluster around the very names of some choice foreign wines, and surround them with an illusive halo hard to dispel; but we believe that the close of the next decade will not only bring a vast improvement in the already excellent product of our vineyards, but will see a great revolution in the public taste, and American wines ranked as their merits deserve.

The question which just now seems to convulse the grape-growing world, and which has led to disputes matched only by those of the Big-endians and Little-endians is, Shall sugar be added before fermentation to such grape-juice as contains an abnormal quantity of acid, and is at the same time deficient in saccharine matter? It is said that grape-skins contain an amount of coloring and flavoring matter sufficient to make, if sugar and water enough be added, three times as much wine as is ordinarily obtained from a given weight of grapes. Those who do not hold this extreme belief yet assert that, when grape-juice has too little sugar and too much acid, it is perfectly fair to bring the amount of sugar in the juice up to the quantity which, when fermented, will produce the percentage of alcohol peculiar to the given wine. Others say that it is better to raise no grapes than to cultivate varieties whose juice is too poor to make good wine without factitious and unnatural additions. They declare, too, that the harmonious mingling of qualities which constitute perfect wine can never result from a mixture of sugar with poor grape-juice. We are not able to decide which side is right, but, while we lean towards those who favor the use of the pure juice, we must own that the temptation to double the product of an acre by the aid of sugar and water must be very strong indeed to any grower whose sole aim is profit. If nothing worse than sugar were added to grape-juice in this country there would be little cause for complaint. We do not *know* indeed that anything else is added, but unpleasant rumors are afloat respecting the treatment to which the Californian wines and those of Ohio are subjected before being offered for sale. We hope that these rumors are unfounded, and that wine-makers will find it as profitable, as it surely

must be pleasant, to furnish the public with pure wines, the genuine product of uncontaminated grape-juice.

The price of our American wines is still far too high, but when a competent writer estimates that we have in this country one million of acres of vineyards, with two millions more planted but not yet in bearing, we take courage and look hopefully forward to a day of lower rates. To be more specific, we say that we shall not be satisfied that the minimum price has been reached until a good hock or Sauterne wine — the kinds in which we seem to be most deficient, and which are, in our opinion, extremely desirable — can be bought for less than a dollar a gallon. This price will not be attained at once; and perhaps it is as well that it should not be reached immediately, for cheapness alone, with no ability on the part of the public to appreciate their merits, will not make choice wines popular. By the time that the prices we hope for become the standard rates, a generation will have grown up capable of estimating at their true value the wines whose advent we prophesy. The present race of Americans is joined to its idol, — whiskey, — and will prove hard to convert to a better faith.

A discussion upon the expediency of increasing the amount of wine produced in our country, or upon the moral and social questions involved in its use, would perhaps be out of place in an article that professes to be a mere record of the progress and condition of viticulture. Yet we did intend, when we began this paper, to say a few words upon the physiological effects of alcohol, to discuss at some length the current theories upon the matter, and to review certain illogical and slipshod essays recently put forward by the advocates of total abstinence, in which assertion has been mistaken for argument, and hearsay evidence for scientific proof. But the work of demolishing these absurd productions has been so well done by other hands,* that we need not undertake the task. We content ourselves with saying that, unless all our hopes and expectations are disappointed, the cultivation of the grape and the manufacture of wine will spread into places where neither is

* Alcohol and Tobacco. I. It does pay to Smoke. II. The Coming Man will drink Wine. By John Fiske, A. M., LL. B. New York: Leypoldt & Holt. 1869. pp. iv., 163.

dreamed of now ; that where the vine is now cultivated with success vineyards will multiply tenfold ; and that good, pure wine will in time be abundant and cheap.

It may, perhaps, be worth while to quote here some remarks made by Mr. E. W. Bull, in an address delivered at a session of the Massachusetts Board of Agriculture last December. After commenting upon the low price of wine in Germany, and mentioning the interesting fact that the last four hundred and thirty-two years may be divided, according to the quality of the wine produced in them, into

Those eminently distinguished	11
Very good years	28
Moderately good years	118
Middling quality wines	76
Inferior quality wines	199
Total	<hr/> 432

and according to their productiveness, into

Years of ample yield	114
Years of middling yield	18
Of poorer yield	99
Of failure, not paying expenses	201
Total	<hr/> 432

Mr. Bull goes on to say : —

“ Now, if under these circumstances of low prices, and almost half the seasons unfavorable, in Germany grape-growing is still the most profitable agricultural pursuit, I think we may go on with the absolute assurance that we cannot fail to succeed in making the crop profitable, and more profitable than any other crop ; and very possibly we may find the alternative that will keep our children at home. Grape-growing is the poetic phase of agriculture. The culture is easy, the harvest is delightful. Except ploughing the land once or twice during the season, the women and children could take the whole care of the vineyard, and when at last the crop is harvested the product from a single acre is often more than the product from all the rest of the farm.

“ Take another point of view. Many a poor man finds it difficult to support his family and educate his children, as the circumstances of the time and the advancing standard make it necessary they should be educated, and spends his life-blood in merely keeping the place which

he has bought, and succeeds in educating his children only by the most severe toil. Let him have his half-acre or acre of grapes, from which he would get, possibly \$ 1,500, — \$ 2,000 has been realized, — surely \$ 500 per annum ; and you can see how that moment you lift that man, who was a slave to the ground, to competency and independence. His income will then give him leisure for reading, enable him to buy books and cultivate his love for art and literature, and make him such a man as an intelligent American citizen ought to be. I confess, gentlemen, that this aspect of the case gives me more pleasure than all others."

Mr. Bull's theories and hopes might be passed by as visionary, if we did not know that his arguments and example have induced many a farmer in his immediate neighborhood and throughout the State to plant vineyards, and thus to enjoy the profits of this new enterprise.

In the times to which we look forward the grapes that we prize now will be set aside for earlier and better kinds ; the wines whose excellence is known now but to a few will be common property ; and even in these Northeastern States we shall look neither to Ohio for our grapes, nor to Germany for our wines.

From Maine to Texas zealous experimenters are at work planting seeds and striving to get varieties of the grape better than any we now possess. Some carefully plant a few seeds in a flower-pot in their parlor, while others drill them in like wheat, by the bushel, over broad acres. Some are earnest in the belief that the great grape of the country will be a hybrid, others that it will be the result of direct planting, and all are pressing towards a common goal with so much energy and hope that we cannot doubt that the triumphs of the past decade, brilliant as they are, will be eclipsed by those of the next ten years. We would aid the work by precept and example, and invite our readers to join us in what has proved a source of yearly increasing satisfaction and pleasure.

" In manibus terræ : non hic vos carmine ficto
Atque per ambages et longa exorsa tenebo."

J. M. MERRICK, JR.